

Claims

- 1) A food product comprising
 - a) 64.50 ± 35 wt % of fat and/or oil;
 - b) 15.48 ± 15 wt % of high protein food source;
 - c) $0.03 - 0.66$ wt % of micronutrient or a mixture of micronutrients;
 - d) $0.02 - 0.30$ wt % of vitamin or a mixture of vitamins;
 - e) 19.35 ± 19 wt % of sweetening agent; and
 - f) $0.10 - 0.30$ wt % of flavouring or a mixture of flavourings.
- 2) A food product as claimed in claim 1 wherein the fat and/or oil is rich in carotenoids, tocopherols and/or tocotrienols.
- 3) A food product as claimed in claim 1 wherein the fat and/or oil is CarotinoTM fat CS35FV or its equivalent.
- 4) A food product as claimed in claim 1 wherein the high protein food source is soy flour.
- 5) A food product as claimed in claim 1 wherein the high protein food source is medium roast soy flour.
- 6) A food product as claimed in claim 1 wherein the micronutrient or mixture of micronutrients is any minerals and/or trace elements.
- 7) A food product as claimed in claim 1 wherein the micronutrient or mixture of micronutrients is a blend of iron source, zinc source and selenium source.
- 8) A food product as claimed in claim 1 wherein micronutrient or mixture of micronutrients is a blend of iron fumerate, zinc amino acid chelate and selenium amino acid chelate.

- 9) A food product as claimed in claim 1 wherein the vitamin or mixture of vitamins is a vitamin C source.
- 10) A food product as claimed in claim 1 wherein the vitamin or mixture of vitamins is ascorbic acid, sodium ascorbate, potassium ascorbate or a blend thereof.
- 11) A food product as claimed in claim 1 wherein the sweetening agent is sugar syrup.
- 12) A food product as claimed in claim 1 wherein the sweetening agent is a sugar syrup having water content between 15 wt % to 25 wt %.
- 13) A food product as claimed in claim 1 wherein the sweetening agent is invert or partial invert syrup.
- 14) A food product as claimed in claim 1 wherein the sweetening agent is Puratex™ 78150 or its equivalent.
- 15) A food product as claimed in claim 1 wherein its overall water content is not more than 7 wt %.
- 16) A food product comprising
- a) 64.50 ± 35 wt % of fat and/or oil rich in carotenoids, tocopherols and/or tocotrienol;
 - b) 15.48 ± 15 wt % of high protein food source;
 - c) 0.03 – 0.66 wt % of micronutrient or a mixture of micronutrients;
 - d) 0.02 – 0.30 wt % of vitamin or a mixture of vitamins;
 - e) 19.35 ± 19 wt % of sugar syrup having water content between 15 wt % to 25 wt %; and
 - f) 0.10 – 0.30 wt % of flavouring or a mixture of flavourings.

17) A food product comprising

- a) 64.50 ± 35 wt % of CarotinoTM fat CS35FV or its equivalent;
- b) 15.48 ± 15 wt % of soy flour;
- c) $0.03 - 0.66$ wt % of a blend of iron source, zinc source and selenium source;
- d) $0.02 - 0.30$ wt % of a vitamin C source;
- e) 19.35 ± 19 wt % of PuratexTM 78150 or its equivalent; and
- f) $0.10 - 0.30$ wt % of flavouring or a mixture of flavourings.

18) A food product as claimed in claim 7 or 17 wherein the iron source is one or more compound selected from a group comprising

ferrous fumerate,
ferrous gluconate,
ferrous phosphate,
ferrous sulphate,
elemental iron / electrolytic iron,
ferric pyrophosphate,
ferric ammonium citrate,
ferric orthophosphate,
Na Fe EDTA,
ferrous lactate,
ferrous succinate and
ferrous saccharate.

19) A food product as claimed in claim 7 or 17 wherein the zinc source is one or more compound selected from a group comprising

zinc amino acid chelate,
zinc gluconate,
zinc oxide,
zinc sulphate,
zinc undecylenate,
zinc chloride,

zinc stearate and
zinc acetate.

20) A food product as claimed in claim 7 or 17 wherein the selenium source is one or more compound selected from a group comprising
selenium yeast,
selenium sulphide,
selenium amino acid chelate,
selenium oxide,
sodium selenite and
sodium selenate.

21) A method of producing a food product comprising a fat and/or oil, a high protein food source and at least one micronutrient wherein the method includes the steps of

- a) mixing at least one micronutrient with a first portion of high protein food source to form mixture (a);
- b) fluffing a fat and/or oil before adding it to mixture (a) and mixing them to form a combined mixture (b);
- c) mixing the combined mixture (b) with a second portion of high protein food source to form the food product; optionally
- d) adding a sweetening agent, a vitamin or mixture of vitamins and/or a flavouring or mixture of flavourings to the food product.

22) A method of producing a food product as claimed in claim 21 wherein the fat and/or oil is rich in carotenoids, tocopherols and/or tocotrienols.

23) A method of producing a food product as claimed in claim 21 wherein the high protein food source is soy flour.

24) A method of producing a food product as claimed in claim 21 wherein the micronutrient is any minerals and/or trace elements.

25) A method of producing a food product comprising a fat and/or oil, a high protein food source and at least one micronutrient wherein the method includes the steps of

- a) mixing at least one micronutrient with a first portion of soy flour to form mixture (a);
- b) fluffing CarotinoTM fat CS35FV or its equivalent before adding it to mixture (a) and mixing them to form mixture (b);
- c) mixing mixture (b) with a second portion of soy flour to form mixture (c);
- d) adding a blend of sugar syrup, vitamin C source and a flavouring or mixture of flavourings to mixture (c) and mixing them to form the food product.

26) A method of producing a food product as claimed in claim 25 wherein the micronutrient is a blend of iron source, zinc source and selenium source.

27) A method of producing a food product as claimed in claim 25 wherein the sugar syrup has water content between 15 wt % to 25 wt %.

28) A method of producing a food product as claimed in claim 25 wherein the sugar syrup is PuratexTM 78150 or its equivalent.

29) A method of producing a food product comprising a fat and/or oil, a high protein food source and at least one micronutrient wherein the method includes the steps of

- a) mixing 0.03 – 0.60 wt % of at least one micronutrient with approximately half the required amount of high protein food source, in which the required amount of high protein food source is 0.5 – 30.5 wt %, to form mixture (a);
- b) fluffing 29.5 – 99.5 wt % of fat and/or oil before adding it to mixture (a) and mixing them to form mixture (b);
- c) mixing mixture (b) with balance of the required amount of high protein food source to form mixture (c);

d) adding a blend of 0.35 – 38.35 wt % of sweetening agent, 0.02 – 0.30 wt % of vitamin or a mixture of vitamins and 0.1 – 0.3 wt % of flavouring or a mixture of flavourings to mixture (c) and mixing them to form the food product.

30) A method of producing a food product as claimed in claim 29 wherein the fat and/or oil is rich in carotenoids, tocopherols and/or tocotrienols.

31) A method of producing a food product as claimed in claim 29 wherein the high protein food source is soy flour.

32) A method of producing a food product as claimed in claim 29 wherein the micronutrient is any minerals and/or trace elements.

33) A method of producing a food product as claimed in claim 29 wherein the sweetening agent is a sugar syrup having water content between 15 wt % to 25 wt %.

34) A method of producing a food product as claimed in claim 29 wherein the vitamin or mixture of vitamins is a vitamin C source.

35) A method of producing a food product comprising a fat and/or oil, a high protein food source and at least one micronutrient wherein the method includes the steps of

a) mixing 0.03 – 0.60 wt % of a blend of iron source, zinc source and selenium source with approximately half the required amount of soy flour, in which the required amount of soy flour is 0.5 – 30.5 wt %, to form mixture (a);

b) fluffing 29.5 – 99.5 wt % of CarotinoTM fat CS35FV or its equivalent before adding it to mixture (a) and mixing them to form mixture (b);

c) mixing mixture (b) with balance of the required amount of soy flour to form mixture (c);

d) adding a blend of 0.35 – 38.35 wt % of PuratexTM 78150 or its equivalent, 0.02 – 0.30 wt % of vitamin C source and 0.1 – 0.3 wt % of flavouring or a mixture of flavourings to mixture (c) and mixing them to form the food product.

36) A method of producing a food product as claimed in claim 26 or 35 wherein the blend of iron source, zinc source and selenium source is comprised of iron fumarate, zinc amino acid chelate and selenium amino acid chelate.

37) A method of producing a food product as claimed in claim 26 or 35 wherein the iron source is one or more compound selected from a group comprising
ferrous fumarate,
ferrous gluconate,
ferrous phosphate,
ferrous sulphate,
elemental iron / electrolytic iron,
ferric pyrophosphate,
ferric ammonium citrate,
ferric orthophosphate,
Na Fe EDTA,
ferrous lactate,
ferrous succinate and
ferrous saccharate.

38) A method of producing a food product as claimed in claim 26 or 35 wherein the zinc source is one or more compound selected from a group comprising
zinc amino acid chelate,
zinc gluconate,
zinc oxide,
zinc sulphate,
zinc undecylenate,
zinc chloride,
zinc stearate and
zinc acetate.

39) A method of producing a food product as claimed in claim 26 or 35 wherein the selenium source is one or more compound selected from a group comprising

selenium yeast,
selenium sulphide,
selenium amino acid chelate,
selenium oxide,
sodium selenite and
sodium selenate.

40) A method of producing a food product as claimed in claim 25, 34 or 35 wherein the vitamin C source is ascorbic acid, sodium ascorbate, potassium ascorbate or a blend thereof.

41) A food product comprising a fat and/or oil, a high protein food source and at least one micronutrient characterized in that 100 gram of the food product comprises

- a) 68.5 g \pm 35% of fat;
- b) 6.5 g \pm 15% of protein;
- c) 17.6 g \pm 19% of carbohydrate;
- d) 7 – 75 mg of iron;
- e) 6.9 – 69 mg of zinc;
- f) 26 – 266 μ g of selenium;
- g) 15 – 300 mg of ascorbic acid;
- h) 80 – 250 mg of flavouring;
- i) 32 mg \pm 10% of carotenoids;
- j) 32 mg \pm 10% of tocopherols and/or tocotrienols;
- k) 50 mg \pm 10% of isoflavones, and
- l) 6 g \pm 10% of moisture.

42) A food product comprising a blend of

- a) fat and/or oil rich in carotenoids, tocopherols and/or tocotrienols;
- b) soy flour;
- c) sugar syrup having water content between 15 wt % to 25 wt %
- d) at least one type of vitamins, minerals and/or trace elements;

characterized in that the minerals and/or trace elements are substantially micro-encapsulated by the fat and/or oil.

43) A food product as claimed in claim 42 wherein its overall water content is not more than 7 wt %.

44) A food product as claimed in claim 42 wherein the fat and/or oil is CarotinoTM fat CS35FV or its equivalent.

45) A food product produced by a method as claimed in any of claims 21 to 39.

46) A food product as claim in any of claims 1 to 20 and 42 to 45 wherein the food product is spreadable.